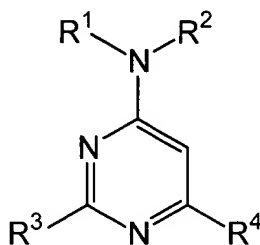


AMENDMENTS TO THE CLAIMS

Please amend claims 24-26 as indicated below. Please add new claims 27-36.
Please cancel claims 11, 12, 18, 19, 22, and 23. Deletions appear in ~~striketrough font~~,
and additions are underlined.

Complete listing of claims

1. (Previously presented) A compound of the formula I,



in which

R¹ is (C₁-C₈)-alkyl, which can be substituted by one or more identical or different substituents chosen from hydroxyl, (C₁-C₄)-alkoxy, (C₁-C₄)-alkyl-S(O)_m, R⁵R⁶N and aryl; (C₃-C₉)-cycloalkyl, which can be substituted by one or more identical or different substituents chosen from (C₁-C₄)-alkyl, hydroxyl and amino; or a radical of a 5-membered to 7-membered saturated heterocyclic ring with one or two identical or different hetero ring members chosen from O, NR⁷ and S(O)_m and that can be substituted by one or more identical or different substituents chosen from (C₁-C₄)-alkyl and aryl- (C₁-C₄)-alkyl-; and

R² is hydrogen, (C₁-C₈)-alkyl, which can be substituted by one or more identical or different substituents chosen from hydroxyl, (C₁-C₄)-alkoxy, (C₁-C₄)-

alkyl-S(O)_m-, R⁵R⁶N and aryl; (C₃-C₉)-cycloalkyl, which can be substituted by one or more identical or different substituents chosen from (C₁-C₄)-alkyl, hydroxyl and amino; or the radical of a 5-membered to 7-membered saturated heterocyclic ring with one or two identical or different hetero ring members chosen from O, NR⁷ and S(O)_m and that can be substituted by one or more identical or different substituents chosen from (C₁-C₄)-alkyl and aryl-(C₁-C₄)-alkyl-; or

R¹R²N is a radical, bonded via a ring nitrogen atom, of a 5-membered to 7-membered saturated heterocyclic ring optionally with, in addition to the nitrogen atom carrying the radicals R¹ and R², a further hetero ring member chosen from O, NR⁷ and S(O)_m and that can be substituted by one or more identical or different substituents chosen from (C₁-C₄)-alkyl, hydroxyl, (C₁-C₄)-alkoxy, R⁸R⁹N, hydroxycarbonyl, (C₁-C₄)-alkoxycarbonyl and R⁸R⁹N-CO-;

R³ is phenyl, which can be substituted by one or more identical or different substituents chosen from halogen, (C₁-C₄)-alkyl, phenyl, CF₃, NO₂, OH, -O-(C₁-C₄)-alkyl, -O-(C₂-C₄)-alkyl-O-(C₁-C₄)-alkyl, (C₁-C₂)-alkylenedioxy, NH₂, -NH-(C₁-C₄)-alkyl, N((C₁-C₄)-alkyl)₂, -NH-CHO, -NH-CO-(C₁-C₄)-alkyl, -CN, -CO-NH₂, -CO-NH-(C₁-C₄)-alkyl, -CO-N((C₁-C₄)-alkyl)₂, -CO-OH, -CO-O-(C₁-C₄)-alkyl, -CHO and -CO-(C₁-C₄)-alkyl;

R⁴ is (C₂-C₅)-alkyl, trifluoromethyl or phenyl, which can be substituted by one or more identical or different substituents chosen from halogen, (C₁-C₄)-alkyl, phenyl, CF₃, NO₂, OH, -O-(C₁-C₄)-alkyl, -O-(C₂-C₄)-alkyl-O-(C₁-C₄)-alkyl, (C₁-C₂)-alkylenedioxy, NH₂, -NH-(C₁-C₄)-alkyl, N((C₁-C₄)-alkyl)₂, -NH-CHO, -NH-CO-(C₁-C₄)-alkyl, -CN, -CO-NH₂, -CO-NH-(C₁-C₄)-alkyl, -CO-N((C₁-C₄)-alkyl)₂, -CO-OH, -CO-O-(C₁-C₄)-alkyl, -CHO and -CO-(C₁-C₄)-alkyl;

R⁵ and R⁶ are identical or different radicals chosen from hydrogen and (C₁-C₄)-alkyl; or the group R⁵R⁶N is a radical, bonded via a ring nitrogen atom, of

a 5-membered to 7-membered saturated or unsaturated heterocyclic ring optionally with, in addition to the nitrogen atom carrying the radicals R^5 and R^6 , a further hetero ring member chosen from an oxygen atom, a group $S(O)_m$ and a nitrogen atom and that can carry on ring carbon atoms one or more identical or different substituents chosen from (C₁-C₄)-alkyl, hydroxyl and amino and that can carry on a ring nitrogen atom a radical R^7 ;

R^7 is hydrogen, (C₁-C₄)-alkyl, aryl-(C₁-C₄)-alkyl-, hydroxy-(C₁-C₄)-alkyl, hydroxycarbonyl-(C₁-C₄)-alkyl-, ((C₁-C₄)-alkoxycarbonyl)-(C₁-C₄)-alkyl, R^8R^9N -CO-(C₁-C₄)-alkyl-, R^{10} -SO₂- or aryl; where R^7 , if this group is present on a piperazino radical representing R^1R^2N , cannot be carbocyclic aryl or carbocyclic aryl-(C¹-C⁴)-alkyl;

R^8 and R^9 are identical or different radicals chosen from hydrogen and (C₁-C₄)-alkyl;

R^{10} is (C₁-C₄)-alkyl, aryl or R^8R^9N ;

aryl is phenyl, naphthyl or heteroaryl, all of which can be substituted by one or more identical or different substituents chosen from halogen, (C₁-C₄)-alkyl, phenyl, CF₃, NO₂, OH, -O-(C₁-C₄)-alkyl, O-(C₂-C₄)-alkyl-O-(C₁-C₄)-alkyl, (C₁-C₂)-alkylenedioxy, NH₂, -NH-(C₁-C₄)-alkyl, -N((C₁-C₄)-alkyl)₂, -NH-CHO, -NH-CO-(C₁-C₄)-alkyl, -CN, CO-NH₂, -CO-NH-(C₁-C₄)-alkyl, -CO-N((C₁-C₄)-alkyl)₂, -CO-OH, -CO-O-(C₁-C₄)-alkyl, -CHO and -CO-(C₁-C₄)-alkyl;

heteroaryl is the radical of a monocyclic 5-membered or 6-membered aromatic heterocycle or of a bicyclic 8-membered to 10-membered aromatic heterocycle, each of which with one or two identical or different ring heteroatoms chosen from N, O and S;

m is 0, 1 or 2;

or a stereoisomeric form of a compound of formula I,

or a mixture of stereoisomeric forms of compounds of formula I in all ratios,

or a physiologically tolerable salt of a compound of formula I,

or a physiologically tolerable salt of a stereoisomeric form of a compound of formula I;

compounds of the formula I being excluded in which, simultaneously, R⁴ is ethyl, tert-butyl, or trifluoromethyl; R³ is phenyl, which can be substituted by one or two identical or different substituents chosen from halogen, OH, -O-R¹¹ and CF₃, R¹R²N is R¹¹-NH-, (R¹¹)₂N- or R¹²R¹³N-(CH₂)_p-NH-; p is 2 or 3; R¹¹ is saturated unsubstituted (C₁-C₄)-alkyl; and R¹² and R¹³ are identical or different radicals chosen from hydrogen and R¹¹ or the group R¹²R¹³N is a radical, bonded via a ring nitrogen atom, of a 5-membered or 6-membered saturated heterocyclic ring optionally with, in addition to the nitrogen atom carrying the radicals R¹² and R¹³, a further hetero ring member chosen from an oxygen atom, a sulfur atom and a nitrogen atom and that can be substituted by an aryl substituted by one or two identical or different substituents chosen from halogen, OH, -O-R¹¹, and CF₃.

2. (Previously presented) A compound of claim 1, in which

R¹ is (C₁-C₈)-alkyl, which can be substituted by one or more identical or different substituents, chosen from, hydroxyl, (C₁-C₄)-alkoxy, (C₁-C₄)-alkyl-S(O)_m-, R⁵R⁶N and aryl; or is (C₃-C₉)-cycloalkyl, which can be substituted by one or more identical or different substituents chosen from (C₁-C₄)-alkyl, hydroxyl and amino; and

R² is hydrogen, (C₁-C₈)-alkyl, which can be substituted by one or more identical or different substituents chosen from hydroxyl, (C₁-C₄)-alkoxy, (C₁-C₄)-alkyl-S(O)_m-, R⁵R⁶N and aryl; or is (C₃-C₉)-cycloalkyl, which can be

substituted by one or more identical or different substituents chosen from (C₁-C₄)-alkyl, hydroxyl and amino; or

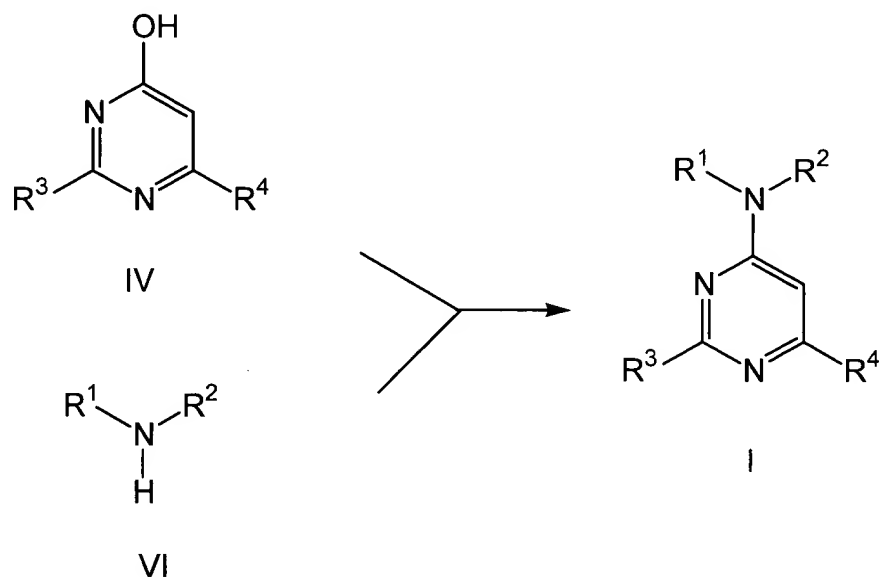
R¹R²N is a radical, bonded via a ring nitrogen atom of a 5-membered, 6-membered or 7-membered saturated heterocyclic ring optionally with, in addition to the nitrogen atom carrying the radicals R¹ and R², a further hetero ring member chosen from an oxygen atom, a group S(O)_m and a nitrogen atom carrying a radical R⁷ and that can be substituted by one or more identical or different substituents chosen from (C₁-C₄)-alkyl, hydroxyl, (C₁-C₄)-alkoxy, R⁸R⁹N, hydroxycarbonyl, (C₁-C₄)-alkoxycarbonyl and R⁸R⁹N-CO.

3. (Previously presented) A compound of claim 1, in which R¹ is (C₁-C₄)-alkyl, which can be substituted by one or more identical or different substituents chosen from hydroxyl, (C₁-C₄)-alkoxy, (C₁-C₄)-alkyl-S(O)_m, R⁵R⁶N and aryl, or (C₃-C₉)-cycloalkyl, which can be substituted by one or more identical or different substituents chosen from (C₁-C₄)-alkyl, hydroxyl and amino, and R² is hydrogen; or R¹ and R² are identical or different (C₁-C₄)-alkyl, which can be substituted by one or more identical or different substituents chosen from hydroxyl, (C₁-C₄)-alkoxy, (C₁-C₄)-alkyl-S(O)_m, R⁵R⁶N and aryl.
4. (Previously presented) A compound of claim 1, in which R¹ is (C₃-C₉)-cycloalkyl, which can be substituted by one or more identical or different substituents chosen from (C₁-C₄)-alkyl, hydroxyl and amino, and R² is hydrogen.
5. (Previously presented) A compound of claim 1, in which R¹R²N- is an unsubstituted or substituted radical chosen from piperidino, morpholino and thiomorpholino (and its S-oxide and S,S-dioxide) and piperazino.
6. (Previously presented) A compound of claim 1, in which R³ is substituted phenyl.
7. (Previously presented) A compound of claim 1, in which R⁴ is (C₃-C₄)-alkyl.

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8. (Previously presented) A process for the preparation of at least one compound of claim 1, which comprises activating a 4-hydroxypyrimidine of the formula IV and then reacting it with an amine of a formula VI to produce a compound of formula I,



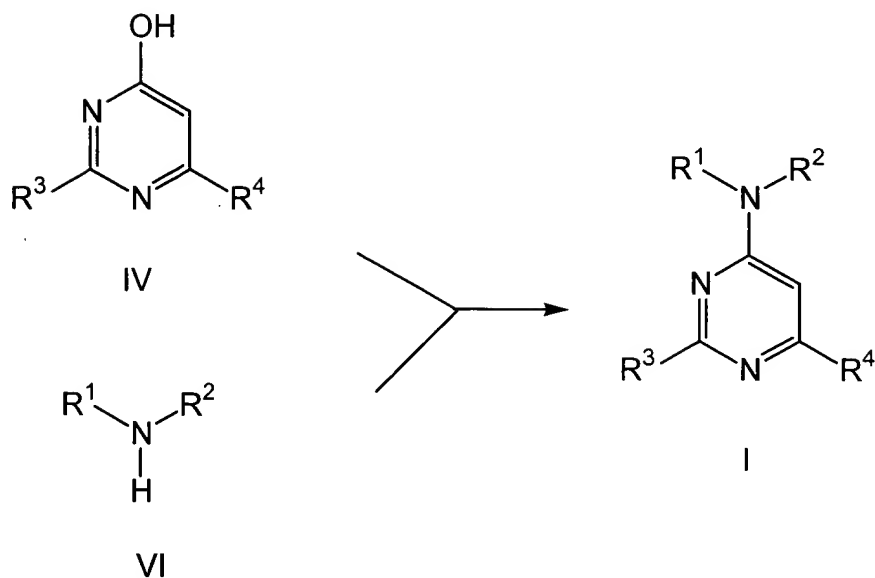
and optionally converting a compound of formula I into a pharmaceutically acceptable salt.

Claims 9-12 (Cancelled)

13. (Previously presented) A compound of claim 5, in which R³ is substituted phenyl.
14. (Previously presented) A compound of claim 5, in which R⁴ is (C₃-C₄)-alkyl.
15. (Previously presented) A process for the preparation of at least one compound of claim 5, which comprises activating a 4-hydroxypyrimidine of the formula IV and then reacting it with an amine of a formula VI;

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and optionally converting the resulting product into a pharmaceutically acceptable salt.

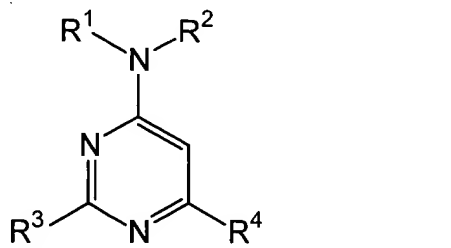
Claims 16-19 (Cancelled)

20. (Previously presented) A pharmaceutical composition, comprising one or more compounds of claim 1 and a pharmaceutically acceptable carrier.
21. (Previously presented) A pharmaceutical composition, comprising one or more compounds of claim 5 and a pharmaceutically acceptable carrier.

Claims 22-23 (Cancelled)

24. (Currently amended) A method of treating according to claim 12, wherein the cardiovascular disorder is angina pectoris, comprising administering to a patient in need thereof an effective amount of at least one compound of claim 1.
25. (Currently amended) A method of treating according to claim 19, wherein the cardiovascular disorder is angina pectoris, comprising administering to a patient in need thereof an effective amount of at least one compound of claim 5.

26. (Currently amended) A method of treating according to claim 23, wherein the cardiovascular disorder is angina pectoris, comprising administering to a patient in need thereof an effective amount of at least one compound of formula I,



in which

R¹ is (C₁-C₈)-alkyl, which can be substituted by one or more identical or different substituents chosen from hydroxyl, (C₁-C₄)-alkoxy, (C₁-C₄)-alkyl-S(O)_m-, R⁵R⁶N and aryl; (C₃-C₉)-cycloalkyl, which can be substituted by one or more identical or different substituents chosen from (C₁-C₄)-alkyl, hydroxyl and amino; or a radical of a 5-membered to 7-membered saturated heterocyclic ring with one or two identical or different hetero ring members chosen from O, NR⁷ and S(O)_m and that can be substituted by one or more identical or different substituents chosen from (C₁-C₄)-alkyl and aryl-(C₁-C₄)-alkyl-; and

R² is hydrogen, (C₁-C₈)-alkyl, which can be substituted by one or more identical or different substituents chosen from hydroxyl, (C₁-C₄)-alkoxy, (C₁-C₄)-alkyl-S(O)_m-, R⁵R⁶N and aryl; (C₃-C₉)-cycloalkyl, which can be substituted by one or more identical or different substituents chosen from (C₁-C₄)-alkyl, hydroxyl and amino; or the radical of a 5-membered to 7-membered saturated heterocyclic ring with one or two identical or different hetero ring members chosen from O, NR⁷ and S(O)_m and that can be substituted by

one or more identical or different substituents chosen from (C₁-C₄)-alkyl and aryl-(C₁-C₄)-alkyl-; or

R¹R²N is a radical, bonded via a ring nitrogen atom, of a 5-membered to 7-membered saturated heterocyclic ring optionally with, in addition to the nitrogen atom carrying the radicals R¹ and R², a further hetero ring member chosen from O, NR⁷ and S(O)_m and that can be substituted by one or more identical or different substituents chosen from (C₁-C₄)-alkyl, hydroxyl, (C₁-C₄)-alkoxy, R⁸R⁹N, hydroxycarbonyl, (C₁-C₄)-alkoxycarbonyl and R⁸R⁹N-CO-;

R³ is phenyl, which can be substituted by one or more identical or different substituents chosen from halogen, (C₁-C₄)-alkyl, phenyl, CF₃, NO₂, OH, -O-(C₁-C₄)-alkyl, -O-(C₂-C₄)-alkyl-O-(C₁-C₄)-alkyl, (C₁-C₂)-alkylenedioxy, NH₂, -NH-(C₁-C₄)-alkyl, N((C₁-C₄)-alkyl)₂, -NH-CHO, -NH-CO-(C₁-C₄)-alkyl, -CN, -CO-NH₂, -CO-NH-(C₁-C₄)-alkyl, -CO-N((C₁-C₄)-alkyl)₂, -CO-OH, -CO-O-(C₁-C₄)-alkyl, -CHO and -CO-(C₁-C₄)-alkyl;

R⁴ is (C₂-C₅)-alkyl, trifluoromethyl or phenyl, which can be substituted by one or more identical or different substituents chosen from halogen, (C₁-C₄)-alkyl, phenyl, CF₃, NO₂, OH, -O-(C₁-C₄)-alkyl, -O-(C₂-C₄)-alkyl-O-(C₁-C₄)-alkyl, (C₁-C₂)-alkylenedioxy, NH₂, -NH-(C₁-C₄)-alkyl, N((C₁-C₄)-alkyl)₂, -NH-CHO, -NH-CO-(C₁-C₄)-alkyl, -CN, -CO-NH₂, -CO-NH-(C₁-C₄)-alkyl, -CO-N((C₁-C₄)-alkyl)₂, -CO-OH, -CO-O-(C₁-C₄)-alkyl, -CHO and -CO-(C₁-C₄)-alkyl;

R⁵ and R⁶ are identical or different radicals chosen from hydrogen and (C₁-C₄)-alkyl; or the group R⁵R⁶N is a radical, bonded via a ring nitrogen atom, of a 5-membered to 7-membered saturated or unsaturated heterocyclic ring optionally with, in addition to the nitrogen atom carrying the radicals R⁵ and R⁶, a further hetero ring member chosen from an oxygen atom, a group S(O)_m and a nitrogen atom and that can carry on ring carbon atoms one or more identical or different substituents chosen from (C₁-C₄)-alkyl,

hydroxyl and amino and that can carry on a ring nitrogen atom a radical R^7 :

R^7 is hydrogen, (C₁-C₄)-alkyl, aryl-(C₁-C₄)-alkyl-, hydroxy-(C₁-C₄)-alkyl, hydroxycarbonyl-(C₁-C₄)-alkyl-, ((C₁-C₄)-alkoxycarbonyl)-(C₁-C₄)-alkyl, R^8R^9N -CO-(C₁-C₄)-alkyl-, R^{10} -SO₂- or aryl; where R^7 , if this group is present on a piperazino radical representing R^1R^2N , cannot be carbocyclic aryl or carbocyclic aryl-(C¹-C⁴)-alkyl;

R^8 and R^9 are identical or different radicals chosen from hydrogen and (C₁-C₄)-alkyl;

R^{10} is (C₁-C₄)-alkyl, aryl or R^8R^9N ;

aryl is phenyl, naphthyl or heteroaryl, all of which can be substituted by one or more identical or different substituents chosen from halogen, (C₁-C₄)-alkyl, phenyl, CF₃, NO₂, OH, -O-(C₁-C₄)-alkyl, O-(C₂-C₄)-alkyl-O-(C₁-C₄)-alkyl, (C₁-C₂)-alkylenedioxy, NH₂, -NH-(C₁-C₄)-alkyl, -N((C₁-C₄)-alkyl)₂, -NH-CHO, -NH-CO-(C₁-C₄)-alkyl, -CN, CO-NH₂, -CO-NH-(C₁-C₄)-alkyl, -CO-N((C₁-C₄)-alkyl)₂, -CO-OH, -CO-O-(C₁-C₄)-alkyl, -CHO and -CO-(C₁-C₄)-alkyl;

heteroaryl is the radical of a monocyclic 5-membered or 6-membered aromatic heterocycle or of a bicyclic 8-membered to 10-membered aromatic heterocycle, each of which with one or two identical or different ring heteroatoms chosen from N, O and S;

m is 0, 1 or 2;

or a stereoisomeric form of a compound of formula I,

or a mixture of stereoisomeric forms of compounds of formula I in all ratios,

or a physiologically tolerable salt of a compound of formula I,

or a physiologically tolerable salt of a stereoisomeric form of a compound of formula I.

27. (New) A compound of claim 1, in which R¹ is (C₃-C₇)-cycloalkyl, which can be substituted by one or two identical or different substituents chosen from (C₁-C₄)-alkyl, hydroxyl and amino, and R² is hydrogen.
28. (New) A compound of claim 1, in which R¹ is (C₃-C₉)-cycloalkyl, which is substituted by hydroxyl and R² is hydrogen.
29. (New) A compound of claim 1, in which R¹ is cyclopentyl or cyclohexyl, wherein said cyclopentyl or cyclohexyl can be substituted by one or more identical or different substituents chosen from (C₁-C₄)-alkyl, hydroxyl and amino, and R² is hydrogen.
30. (New) A compound of claim 1, in which R¹ is cyclopentyl or cyclohexyl, wherein said cyclopentyl or cyclohexyl is substituted by one or two identical or different substituents chosen from (C₁-C₄)-alkyl, hydroxyl and amino, and R² is hydrogen.
31. (New) A compound of claim 1, in which R¹ is cyclopentyl or cyclohexyl, wherein said cyclopentyl or cyclohexyl is substituted by hydroxyl, and R² is hydrogen.
32. (New) A compound of claim 1, in which R¹ is cyclohexyl, which is substituted by hydroxyl and R² is hydrogen.
33. (New) A compound of claim 1, in which R¹ is 4-hydroxycyclohexyl and R² is hydrogen.
34. (New) A compound of claim 1, in which R¹ is (C₁-C₈)-alkyl, which can be substituted by one or more identical or different substituents chosen from hydroxyl, (C₁-C₄)-alkoxy, (C₁-C₄)-alkyl-S(O)_m-, R⁵R⁶N- and aryl, and R² is hydrogen.

35. (New) A compound of claim 1, in which

R^1R^2N is cyclopentylamino, R^3 is 4-methylphenyl, and R^4 is isopropyl; or

R^1R^2N is (trans-4-hydroxycyclohexyl)amino, R^3 is 4-methylphenyl, and R^4 is isopropyl; or

R^1R^2N is cyclopropylamino, R^3 is 4-chlorophenyl, and R^4 is isopropyl; or

R^1R^2N is (trans-4-hydroxycyclohexyl)amino, R^3 is 3,5-dichlorophenyl, and R^4 is isopropyl; or

R^1R^2N is cyclopentylamino, R^3 is 4-cyanophenyl, and R^4 is isopropyl; or

R^1R^2N is (4-hydroxycyclohexyl)amino, R^3 is 4-cyanophenyl, and R^4 is isopropyl; or

R^1R^2N is cyclopentylamino, R^3 is 4-chlorophenyl, and R^4 is isopropyl; or

R^1R^2N is (trans-4-hydroxycyclohexyl)amino, R^3 is 4-chlorophenyl, and R^4 is isopropyl; or

R^1R^2N is (trans-4-aminocyclohexyl)amino, R^3 is 4-chlorophenyl, and R^4 is isopropyl; or

R^1R^2N is (cis/trans-4-hydroxycyclohexyl)amino, R^3 is 4-chlorophenyl, and R^4 is isopropyl; or

R^1R^2N is (4-methylcyclohexyl)amino, R^3 is 4-chlorophenyl, and R^4 is isopropyl; or

R^1R^2N is (2-isopropyl-5-methylcyclohexyl)amino, R^3 is 4-chlorophenyl, and R^4 is isopropyl; or

R^1R^2N is (trans-2-hydroxycyclohexyl)amino, R^3 is 4-chlorophenyl, and R^4 is isopropyl; or

R^1R^2N is cyclopentylamino, R^3 is 4-chlorophenyl, and R^4 is tert-butyl; or

R^1R^2N is (trans-4-hydroxycyclohexyl)amino, R^3 is 4-chlorophenyl, and R^4 is tert-butyl; or

R^1R^2N is cyclopentylamino, R^3 is 4-chlorophenyl, and R^4 is CF_3 , or

R^1R^2N is (trans-4-hydroxycyclohexyl)amino, R^3 is 4-chlorophenyl, and R^4 is phenyl; or

R^1R^2N is cyclobutylamino, R^3 is 4-chlorophenyl, and R^4 is isopropyl; or

R^1R^2N is cyclononylamino, R^3 is 4-chlorophenyl, and R^4 is isopropyl.

36. (New) A compound of claim 1, wherein in the formula I

R^1R^2N is (trans-4-hydroxycyclohexyl)amino, R^3 is 4-methylphenyl, and R^4 is isopropyl; or

R^1R^2N is (trans-4-hydroxycyclohexyl)amino, R^3 is 3,5-dichlorophenyl, and R^4 is isopropyl; or

R^1R^2N is (4-hydroxycyclohexyl)amino, R^3 is 4-cyanophenyl, and R^4 is isopropyl; or

R^1R^2N is (trans-4-hydroxycyclohexyl)amino, R^3 is 4-chlorophenyl, and R^4 is isopropyl; or

R^1R^2N is (cis/trans-4-hydroxycyclohexyl)amino, R^3 is 4-chlorophenyl, and R^4 is isopropyl; or

R^1R^2N is (trans-2-hydroxycyclohexyl)amino, R^3 is 4-chlorophenyl, and R^4 is isopropyl; or

R^1R^2N is (trans-4-hydroxycyclohexyl)amino, R^3 is 4-chlorophenyl, and R^4 is tert-butyl; or

R^1R^2N is (trans-4-hydroxycyclohexyl)amino, R^3 is 4-chlorophenyl, and R^4 is phenyl.

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